

CLAIMS

1. A processing device comprising:
2 a processing module capable of multitasking multiple tasks;
one or more associated circuits, which may be selectively enabled and
4 disabled responsive to a control signal, coupled to said processing module for
supporting the processing module;
6 a memory storing a control word for enabling and disabling the associated
circuits, wherein each task has an associated control word which is stored in the
8 memory while the task is being executed by the processing module.

2. The processing device of claim 1 wherein said control word
2 comprises a plurality of fields.

3. The processing device of claim 2 wherein each of said associated
2 circuits has an associated field.

4. The processing device of claim 3 wherein each of said associated
2 circuits has power circuitry for either enabling or disabling the associated circuit
responsive to a value stored in said associated field.

5. The processing device of claim 1 wherein said processing module
2 includes a plurality of processing subsystems which may be selectively enabled
or disabled by said control word.

6. The processing device of claim 1 wherein said processing module is
2 a microprocessor module.

7. The processing device of claim 1 wherein said processing module is
2 a digital signal processor.

8. The processing device of claim 1 wherein at least one of said
2 associated circuits is a caching circuit.

9. The processing device of claim 1 wherein one of said associated
2 circuits is a coprocessor.

10. The processing device of claim 1 wherein said processing module
2 comprises a first processing module, and further comprising one or more
additional processing modules.

11. A method of operating a processing device including a processing
2 module capable of multitasking multiple tasks coupled to one or more associated
circuits, comprising the steps of:

4 identifying a current task; and
storing a control word associated with said current task in a memory; and
6 enabling the associated circuits during execution of said current task
responsive to said control word.

12. The method of claim 11 wherein said storing step comprises the
2 step of storing a control word having a plurality of predefined fields.

13. The method of claim 12 wherein each of said associated circuits has
2 an associated field in said control word.

14. The method of claim 13 wherein said enabling or disabling step
2 comprises the step of enabling or disabling each of the associated circuits
responsive to a value stored in said associated field.

15. The method of claim 11 wherein said processing module includes a
2 plurality of processing subsystems and further comprising the step of enabling
or disabling said processing subsystems responsive to said control word.

16. The method of claim 11 wherein said processing module is a
2 microprocessor module.

17. The method of claim 11 wherein said processing module is a digital
2 signal processor.

18. The method of claim 11 wherein at least one of said associated
2 circuits is a caching circuit.

19. The method of claim 11 wherein one of said associated circuits is a
2 coprocessor.

20. The method of claim 11 wherein said processing module comprises
2 a first processing module, and further comprising one or more additional
processing modules.

21. A processing device comprising:
2 multiple processing modules each capable of multitasking multiple tasks;
one or more associated circuits shared between two or more processing
4 modules, which may be selectively enabled and disabled responsive to a control
signal, coupled to said processing modules for supporting the processing
6 module;
multiple memories associated with respective processing modules for
8 storing a control word for enabling and disabling the associated circuits, wherein
each task has an associated control word which is stored in the memory while
10 the task is being executed by the processing module.

22. A mobile communications device comprising:
2 an antenna for receiving and transmitting signals; and
receiver/transmitter circuitry for receiving and transmitting audio and
4 data signals, said receiver/transmitter circuitry comprising:
a processing module capable of multitasking multiple tasks;
6 one or more associated circuits, which may be selectively enabled
and disabled responsive to control signal, coupled to said processing module for

- 8 supporting the processing module; and
- a memory storing a control word for enabling and disabling the
- 10 associated circuits, wherein each task has an associated control word which is stored in the memory while the task is being executed by the processing module.